Objects in Motion

Lesson: Objects in motion

**Student academic content standards that are the target of student learning (list the complete text of the relevant parts of each standard):**  
\*Standard, EARL/GLE First Grade

**STANDARD**: K-1 PS1A : The position of an object can be *described* by locating it relative to another object or to the object’s surroundings.

K-1 PS1B: *Motion* is defined as a change in position over time.

OLD  
**EALR**:1. SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.  
  
**COMPONEN**T:1.1. Properties: understand how properties are used to identify, describe, and categorize substances, materials and objects and how characteristics are used to categorize living things.  
  
**GRADE LEVEL EXPECTATIONS**: 1.1.2. Understand the position and motion of common objects.  
  
  
  
**Learning Objectives:**

\*Schema: Observation - Remind students that we have used this word in previous science lessons and what it means. Definition: the act of watching and observing

\*TSWBAT: Know that things may move in many different ways (i.e., back and forth, fast and slow, and round and straight). Describe that the way to change how something is moving is by applying force in the form of a push or a pull.  
  
  
  
**Assessments to Monitor Student Learning:**  
Choose one of the following that best fits this lesson  
  
\*Diagnostic/Pre-Assessment: This is a new concept. A few simple questions can be asked of the class as a whole to determine general ideas about motion.  
  
\*Formative Assessment: Ask the children for examples of objects that move: Fast and slow, around in circles, Move fast, Move slow  
  
\*Summative Assessment: We will have the children complete the independent work sheet that we hand out to them. They will need to turn it in to us before they leave.  
  
  
**Instructional Strategies and Learning Tasks to Support Student Learning (what you and the students will be doing):**

Anticipatory Set: Since this is about objects in motion we can start the discussion by talking about sledding.

State the Learning Target: Understand the position and motion of common objects.  
  
Learning Episode (Critical Input Experience): Call the class to attention, begin by talking about sledding. We will then tell them that we will be learning about objects in motion. Using the Power Point the children will need to copy the following vocabulary words into their science notebooks:

**Kinetic energy**: the energy of an object in motion.

**Potential energy**: stored energy or possible energy.

**Push**: exert force on (something) to move it away from the origin of force.

**Pull**: exert force on (something), to move it toward the origin of force.

**Friction**: The resistance that one surface of object encounters when moving over another. The action of one surface or object rubbing against another.

Guided Practice: Pass out the blocks and have the kids make ramps, with their partners, out of their books and other materials around the classroom, talk about friction. Have students take turns trying to push each other in the storage bin. Ask why it is harder with a person inside and what makes it harder to push.  
  
Closure: Finish up by repeating what we learned about motion for the day, vocab etc.  
  
Independent Practice: Matching Sheet  
  
**Resources and Materials:**  
These are the materials that you will use for this lesson. All of the items need to be included.

A list of words, on a PPT for the kids to review and see while doing the lesson.

The rolling chair in the classrooom.

Some blocks to pass out.

A storage bin.

**Meeting the Needs of Diverse Learners:**

Ethnicity, Supporting First Language Development: Have materials available in the needed language to help explain the concepts in their native tongue, pair students with peers for assistant, use small group instruction, have bilingual parapro or aid assist to work with the student on a one-on-one basis.

Supporting Language Acquisition: Have materials available in the needed language to help explain the concepts in their native tongue, pair students with peers for assistant, use small group instruction, have bilingual parapro or aid assist to work with the student on a one-on-one basis.

Gender Equity: This is a non-issue for this lesson.  
  
Special Needs Students: Unless a student has no arms this lesson should be accessible by all children.  
  
Historically Marginalized Students: This assignment is being taught using several different methods to help reach the needs of Historically Marginalized students. The Power Point will help those who are visual learners, a hand- on demonstration to help hands-on learners and an individual worksheet to help indicate to the instructor any students still struggling with the concept.   
  
  
**Plans For Personal Contact with Families:**  
What ideas do you have to involve parents in the learning process?

We will include this lesson plan in our monthly and weekly letters home to the parents. At the end of the lesson we could challenge the students to go home and ask their parents if they know what any of the vocab words mean**.**